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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,594

09/19/2005

Zhikuan Wang

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EXAMINER

NGUYEN, NGOC YEN M

ART UNIT

PAPER NUMBER

1754

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/06/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/549,594	<b>Applicant(s)</b> WANG ET AL.	
	<b>Examiner</b> Ngoc-Yen M. Nguyen	<b>Art Unit</b> 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### DETAILED ACTION

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claims 1-2, each claim should be written in a single sentence with just the first letter of the first word capitalized.

In claim 1, there is no clear antecedent basis for "the chromite ore", "the molten salt", "the reaction products", "the primary chromate products" in the first paragraph of the claim; claim 1 is further indefinite because it is unclear if the steps recited after "it includes" (note first line) and the steps (1)-(3) listed after "comprises following steps" are the same steps; in step (1), it is unclear if "can be" language is a positive limitation; there is no clear antecedent basis for "the reactor", "the reaction system"; in step (2), it is unclear what is required by "a kind of slurry"; in step (3), it is meant by "respectively"; claim 1 is also indefinite because it is unclear if the process is for producing "chromates" (plural) as stated in the preamble or "chromate" (singular) as stated in step (3).

In claim 2, there is no antecedent basis for "the purification", "the primary chromate products" (plural); in step (6), it is suggested that "and mother liquor" to be moved to after the limitation "filtering, and drying".

Art Unit: 1754

In claim 4, there is no antecedent basis for "the alkali metal hydroxide" "the alkali metal hydroxide supplemented".

In claim 6, it is unclear if the alkali metal hydroxide aqueous solution in step (3), instead of step (1), as alkali liquor.

In claim 9, there is no antecedent basis for "the mother crystallization liquor".

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over CN-1,240,763.

CN '763 discloses a process for producing sodium chromate and sodium bichromate by reacting chromium ore, caustic soda in the presence of pure oxygen at a temperature of 500-600°C for one hour, the ratio of chromium to caustic soda is 1:1-7.5. The sodium chromate or bichromate is recovered and subjected to purification process which includes water extraction, acidifying step, evaporation and crystallization as required in the instant claims (note Example 1 and claim 3). CN '763 fairly suggests that some of liquid streams can be recycled (note Figure 2).

CN '763 does not specifically disclose the water amount, the pH value for the acidifying step.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the process conditions, such as those mentioned above, in the process of CN '763 in order to obtain the best results.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over CN 1,226,512 in view of CN '763.

CN '512 discloses a process for producing chromate by oxidative decomposing a chromite in NaOH molten salt liquid flow medium, water leaching to obtain a  $\text{Cr}^{+6}$  leaching solution, crystallizing chromate crystals (note claim 1).

The temperature for the decomposing step is 500-550°C and the amount of base to ore is 3:1 to 6:1 and the reaction time is 1-6 hours (note translation, page 5, item (i)).

For the other process conditions, without a showing of criticality or unexpected results, it would have been obvious to one of ordinary skill in the art to optimize the process conditions in CN '512 in order to obtain the desired chromate product.

The difference is CN '512 does not disclose the same steps for purifying the chromate product.

CN '763 is applied as stated above to teach a conventional process of purifying chromate.


It would have been obvious to one of ordinary skill in the art to use the process of purifying the chromate, as suggested by CN '763, for the process of CN '512 because such process is a conventional for purifying an analogous product.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on a Part time schedule.

Art Unit: 1754

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Ngoc-Yen M. Nguyen  
Primary Examiner  
Art Unit 1754

nmn  
April 2, 2007